

# **The National Guide for Sample Collection and Preservation: Strengthening Reliable Environmental Data Quality in Brazil**

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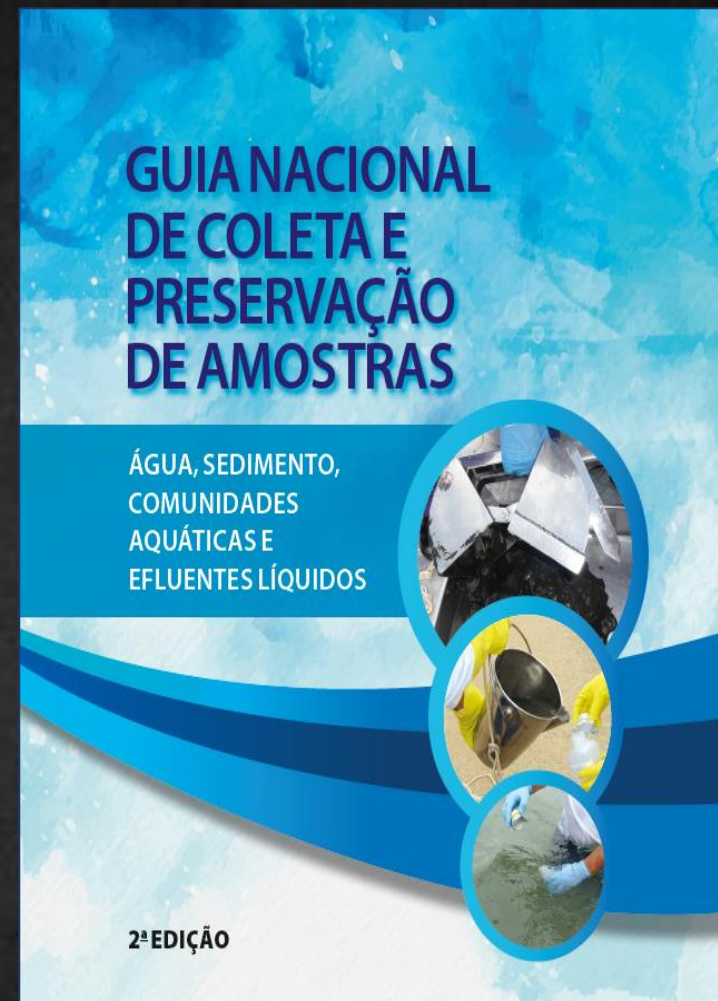
**Sampling Division Manager  
CETESB**



Secretaria de  **SÃO PAULO**  
Meio Ambiente, Infraestrutura e Logística GOVERNO DO ESTADO

# Agenda

- 1. Context & Need
- 2. Objectives
- 3. Timeline
- 4. Guide Structure & Chapters
- 5. Training & Adoption
- 6. Impacts & Expected Results
- 7. Future Challenges
- 8. Conclusions.



# Context & Need

ANA: Federal Autarchy  
Implements National Water Resources Policy



- Challenges in Water Resources Management
- Pioneering Initiatives
  - NHN – National Hydrometeorological Network
  - NWQAP – National Water Quality Assessment Program
  - WQNT – Water Quality National Network)
- Emergence of the Guide: A response to a critical demand

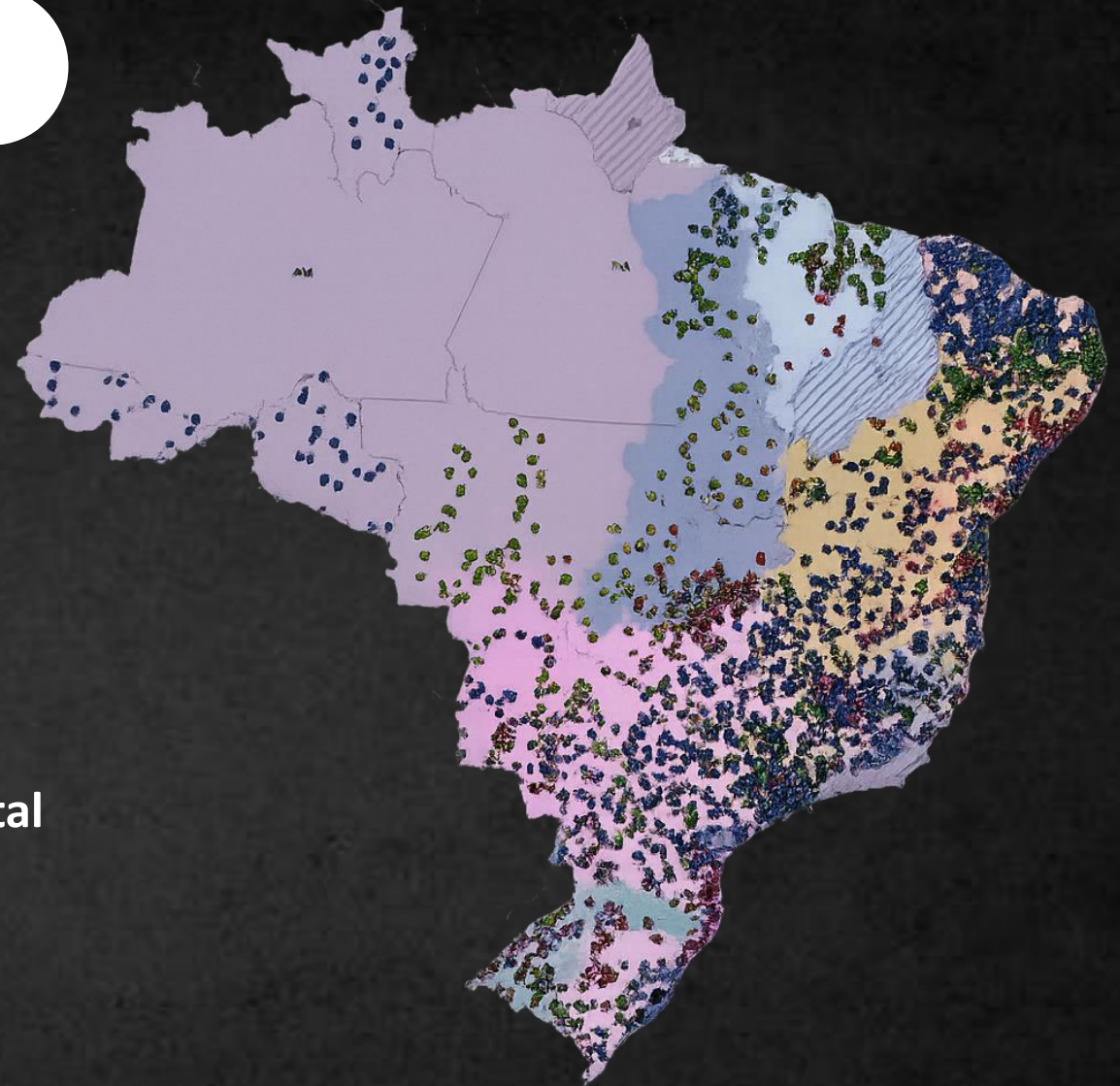


# Context & Need

## NWQAP – National Water Quality Assessment Program Standardized Water-Quality Data

- 3802 points
- Core assays

Water temperature, dissolved oxygen, pH,  
conductivity, turbidity, total solids, BOD, total  
nitrogen, total phosphorus and E. coli.



# Context & Need

CETESB: Environmental Company of the State of São Paulo

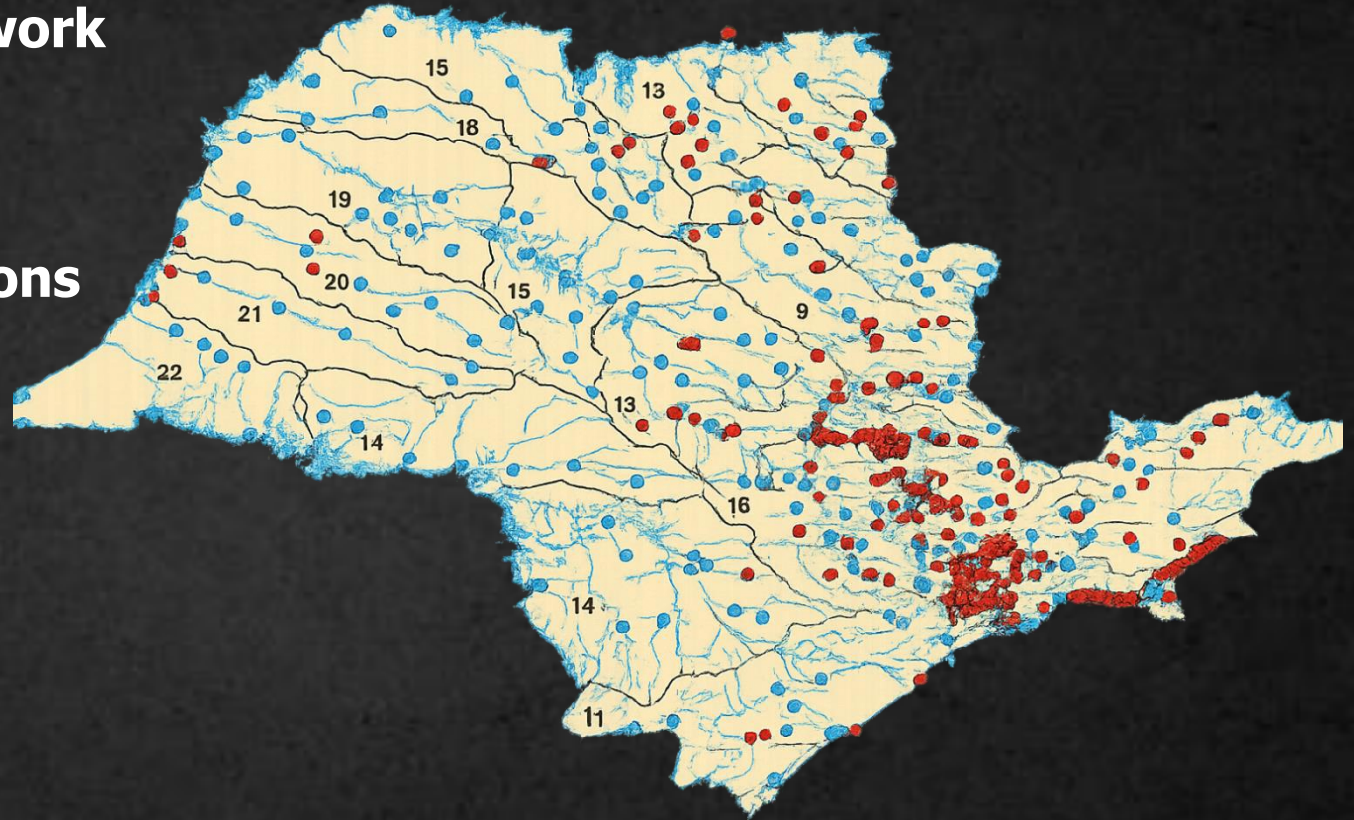
- **Founded in 1968 as São Paulo's environmental agency**
- **Regulates & licenses emissions, effluents and waste**
- **Conducts inspections and enforces environmental standards**
- **Monitors air, water and soil quality statewide**



# Context & Need

## Surface Water Monitoring Network

- **Start: 1974**
- **Number of Stations: 549 stations**
- **Frequency: Quarterly**





# Context & Need

## Laboratory & Sampling Excellence

- **Central analytical complex in São Paulo + 7 regional labs**
- **Matrices: surface water, groundwater, sediment, biota and effluents**
- **Dedicated Sampling Division for field collection**
- **Decades of high-quality data generation**



# Objectives

- Standardize Sampling Methods
- Ensure Data Quality
- Harmonize Procedures
- Support Regulatory Needs
- Facilitate Capacity Building
- Continuous Update

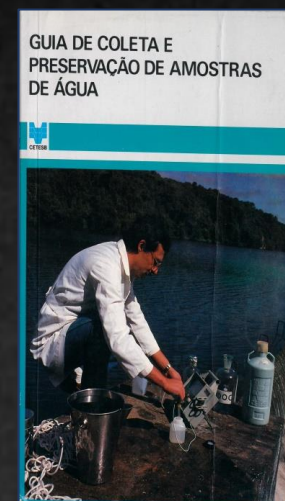




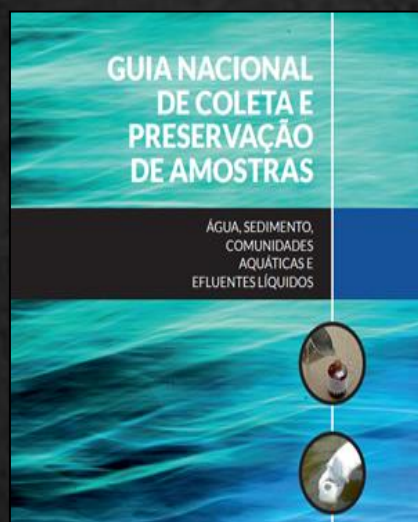
## Timeline



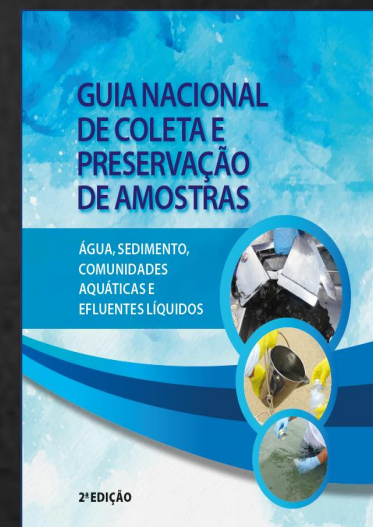
1977



1988



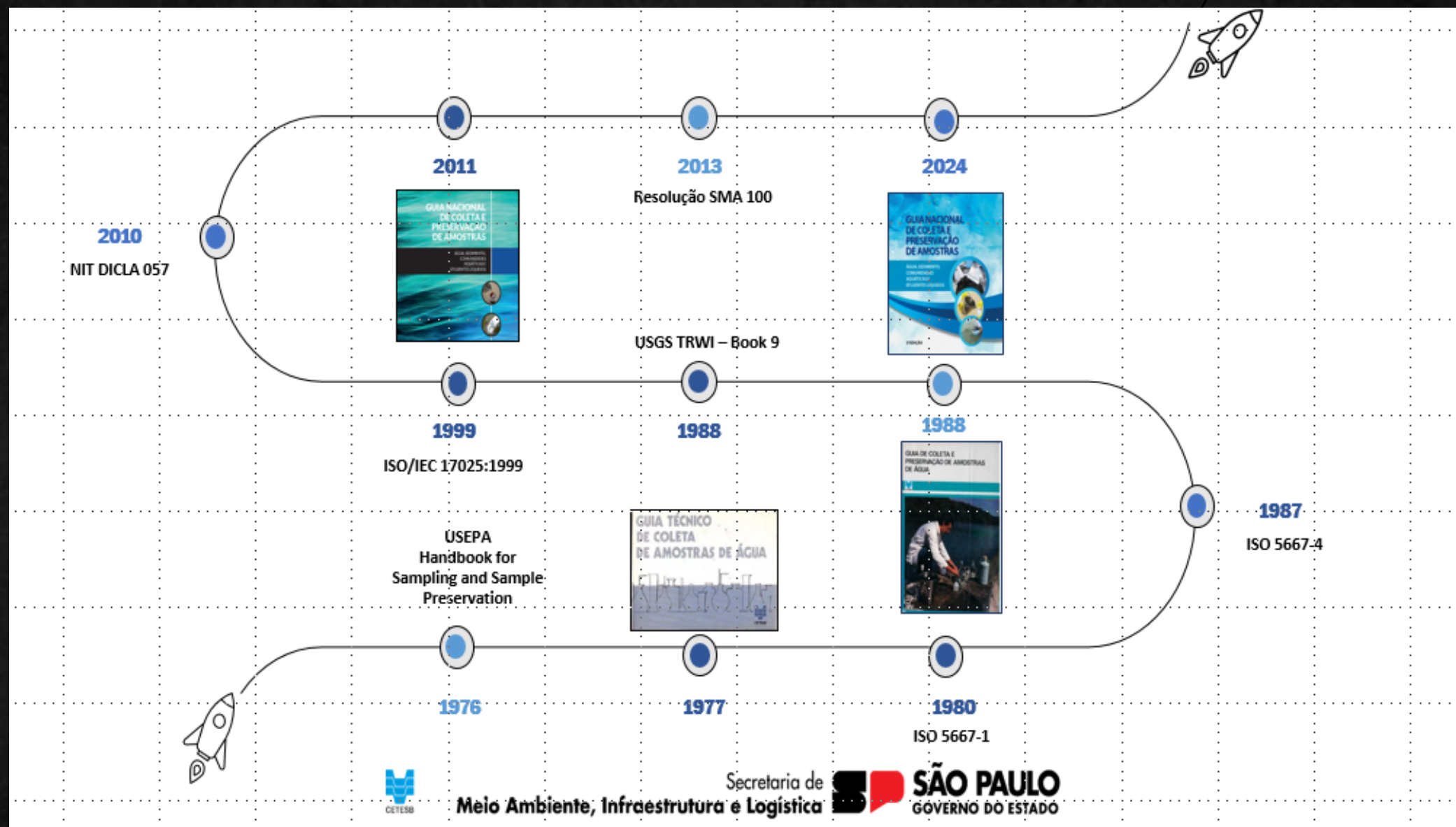
2011

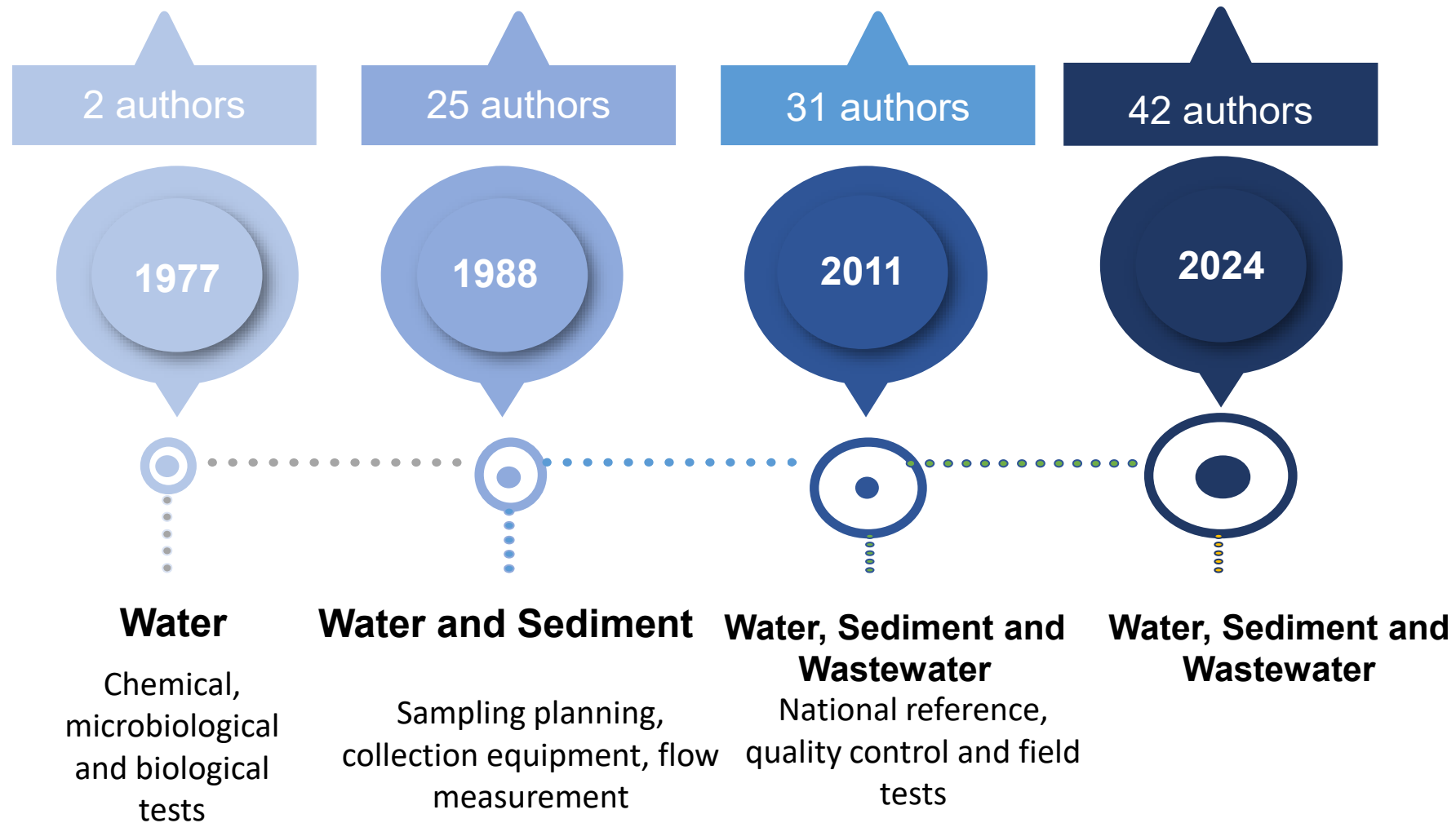


2024



# Timeline







# Guide Structure and Chapters

1. Introduction

2. Sampling Program & Planning

3. Fieldwork Planning & Organization

4. Field Sampling Quality Control

5. Sampling Equipment

6. Surface Water, Sediment & Liquid Effluent Sampling

7. Groundwater & Treated Water Sampling

8. In-Field Assays & Automatic Monitoring

9. Flow Measurement Methods



# Training and Adoption

- ANA's Role
- Professional Training
- Proficiency Testing Programs (PTP)
- Wide Adoption and National Recognition.
- ANA Resolutions 903/2013 & 207/2024



# Impacts and Results

- National Data Harmonization
- Expansion of Monitoring Coverage
- Improvement in Data Quality
- Support for Public Policies and Decision-Making
- More than 150,000 high-quality measurements generated annually!
- Recognized in **NIT-DICLA-057** (Brazilian normative document for sampling accreditation).





# Future Challenges

- **Maintain Engagement and Organizational Structure**
- **Expand the Scope**
- **Quality Control Criteria**
- **Emerging Contaminants (PFAS, microplastics)**
- **Passive Sampling**

# Conclusion

- **Collaborative Success (ANA–CETESB)**
- **Key National Reference**
- **Strengthening of Environmental Management**
- **Commitment to Continuous Improvement**

# Coordinating Team





**Thank you!**

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